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Christopher Erath, declares, pursuant to 28 U.S.C. § 1746 and subject to the penalties of perjury, that the following is true and correct:

My name is Christopher Erath and I am a Director at BLDS, LLC in Natick, Massachusetts. BLDS is a consulting firm specializing in the analysis of labor market outcomes. I received a Ph.D. in economics from the University of Wisconsin where my fields of interest included labor economics, econometrics, and industrial organization. My curriculum vitae has previously been produced.¹

This report supplements an earlier report I filed on the use of the CNS code after exam 6019. In that report I noted that following the methodology proposed by Plaintiff-Intervenors' expert Dr. Joel Wiesen in his 2007 report, I found no statistically significant difference by race in the use of the CNS code. At his trial appearance on August 1st, Dr. Wiesen agreed that no significant difference existed using his own methodology but then proposed an entirely new methodology in which he limited the population under consideration. However, it was unclear what limitation he applied until he provided backup materials on August 4th. In my report of August 5th and testimony on August 8th I noted that Dr. Wiesen's new methodology did not limit the sample to those reviewed by the PRB, but rather included many never reviewed by the PRB (as many hired never went before the PRB) and excluded applicants who did go before the PRB (applicants could be and were rejected for other reasons after being approved by the PRB). A study of outcomes assigned by the PRB which was not limited to those reviewed by the PRB is without merit.

Only with Dr. Wiesen's methodology change, revealed on August 4th, was there an indication that he was attempting to limit the population (however unsuccessfully) under consideration to those

¹ BLDS is being compensated at \$475 per hour for my work in this case.

reviewed by the PRB.² After my testimony on August 8th, I requested a list of those applicants actually reviewed by the PRB, and these data were provided to me on August 12th, after I had departed on a vacation which continues as of this writing. A copy of the list of applicants is attached to this report.

The data provided, which I understand were compiled by Dean Tow, show 210 applicants reviewed by the PRB and the outcome of the PRB's review.³ I merged these data with the data sets both Dr. Wiesen and I used to add race to the data set, and then limited the data to blacks and whites. As Dr. Wiesen used three alternate definitions of race, I used the same three definitions and in each case compared the fraction of whites and blacks who received a CNS code among those reviewed by the PRB. In no case was there a statistically significant difference by race: that is, for each of Dr. Wiesen's definitions of race, there is no evidence to support a claim that the CNS code was more likely to be assigned to either race. The table below shows the results for the definition based on Exhibit Z, which I understand to be the most reliable information on race.⁴ Blacks were 16 percent of those reviewed by the PRB and 22 percent of those who received a CNS code, and this small difference (had two fewer blacks received the CNS code there would be no difference) is far from statistical significance.

Incidence of CNS Code Among Applicants Reviewed by PRB

	<u>Black</u>	<u>White</u>
Reviewed by PRB	26	136
CNS Code	8	28
Is Difference Statistically Significant?		NO

² Dr. Wiesen's report is called "Outline Description of 6019 Statistical Analysis of CNS Dispositions Among Candidates Reviewed for Character."

³ Mr. Tow advised me that code A indicated PRB approval while code D indicated disapproval. One applicant received code S and this applicant was ultimately coded as CNS.

⁴ Exhibit Z's information comes from self-identification of race from applicants themselves, while Exhibit Y relies upon visual identification of race by investigators during an interview. Dr. Wiesen's third option combines the two sources but does so inconsistently, coding an applicant as black if noted as black in either file but requiring identification as white in both files to be coded white.

I conclude, then, that there is no statistical evidence to support a claim that blacks were more likely to be assigned the CNS code than whites when applicants reviewed by the PRB after exam 6019 are examined.

A handwritten signature in black ink, appearing to read "Ch. Erath", is written over a horizontal line.

Christopher Erath

August 19, 2011

FIREFIGHTER LIST/EXAM 6019 Run Date: 12-AUG-11

List Num	Lname	Fname	Prb Result
00007D	CLARK	HASSAN	A
00023D	KENNEDY	SEAN	A
00029D	ENEENAGU	MIRCEA	A
00036V	SABIR	NAFIS	A
00061V	SANTAGAT	THOMAS	D
00066V	PEREZ	ERIC	A
00078V	VEGA	ANTHONY	A
00082.5	ZIMMERMA	JOSEPH	D
00088.5	CHADEAYN	RALLI	A
00091V	VELASQUE	JOSE	A
00095V	VEGA	ANGEL	A
00108V	POLLARD	TEYVON	A
00121	ALLEN	MATTHEW	D
00123V	FEUER	MATTHEW	A
00133.5	RONALDSC	PAUL	A
00142	PEGUERO	JOSE	A
00143	SALFELDEF	ERIC	D
00148V	TORRES	LAURENCE	D
00151D	REGAN	KEVIN	A
00159V	TERHO	CHRISTOPH	A
00161V	BOZEK	DANIEL	D
00167V	YANY JR.	EDWARD	D
00180	MOLINA	XAVIER	A
00189V	FOLEY	ROBERT	A
00190V	KOUTALIDI	EMANUEL	A
00195	CLARK	DENNIS	D
00198	NIEMCZYK	KURTIS	A
00199V	HALE	ANDREW	A
00201	MCGHEE	TERRENCE	A
00203	GIAMBRO	CRAIG	A
00208	LOMONAC	ANTHONY	S
00230V	MENDOZA	GREGORY	A
00232V	VAQUERO	RUBEN	A
00233V	JACINTO	JOSE	D
00241V	ADAMS	ANTHONY	A
00248	TASAKOVIC	DAVID	A
00252	REILLY	JOSEPH	D
00270V	KLEMM	TODD	A
00281V	RODRIGUE	JULIO	A
00309	GLEASON	MATTHEW	A
00312	SILVERMA	JEFFREY	A
00315	LAPOINTE	MATTHEW	A
00318V	SALAZAR	MIGUEL	A
00327V	MALDONA	JOSE	A
00337	CRUZ	ROGER	D
00342V	CROWLEY	STEPHEN	A
00355	SIGNOR	DANIEL	A
00365	ROWE	KYLE	A
00376	LONG	WILLIAM	A

00377V	MERCADO JOHN	D
00391V	ISRAEL KERROL	A
00401	ARAGONA ANTHONY	A
00410.5V	BENNETT NORMAN	D
00413	FAVREAU JOSH	A
00428	FRISCIA J AUGUST	A
00435V	MCALONEY MARK	D
00437	RIVERA JEREMY	A
00438V	BOYA MANUEL	A
00442	HRDLICKA EDWARD	A
00444	MICELI JR VICTOR	A
00455V	COOLEY JASON	A
00462	BISHOP ADAM	A
00493	DISILVEST ADAM	D
00510	DIGIESI JASON	A
00511	HEFFERNAI DANIEL	A
00517	COWHIG DANIEL	A
00519	GONZALEZ ANDRE	A
00537	METZING THOMAS	A
00542	LOENNECK JOHN	A
00544V	HEISTER MICHAEL	A
00564	CATALETTI ROBERT	A
00583	ESSERMAN MICHAEL	A
00589	ELLIOT SAMUEL	D
00596	ALEXANDEI CHRISTOPH	A
00604	SPARACINI ANTHONY	A
00610V	QUINONES ALEJANDRO	A
00614	SETTINERI JOSEPH	A
00621	STAROSTI EDWARD	A
00622V	ROSAS JULIO	A
00626V	HENRI MICHAEL	D
00642V	ACOSTA ERNIE	A
00651V	CHO STEPHEN	A
00656	DALY RYAN	D
00659	MILLER JEFFREY	A
00660	DOMINGUE IVON	A
00669	DUFFICY TIMOTHY	A
00673	PANELLI MARQUES	D
00688	SHEPARD JERIC	D
00691V	HEALY CHRISTOPH	A
00698V	WATTS AUSTIN	A
00704	LOOS JOSEPH	A
00710	WILHELM KIERAN	A
00712	URENA EDWARD	D
00713	HARVEY JAMES	A
00724	NORTON TIMOTHY	A
00726	BARRETT KEVIN	A
00742	SCANNELL GIAN	D
00745	DEJESUS JESSE	A
00747V	ASTUDILLC WALTER	A
00758	MCKAY JASON	D
00765	COYNE KERRY	A

00773	QUINN	CONOR	A
00782	SHEDD	STEPHEN	A
00794	COSTELLO	JASON	A
00797.5	SANDERS	LAKEY	A
00797D	LEO	WILLIAM	A
00806	SANTARO	CHARLES	A
00807	CRANSTON	WILLIAM	A
00813	JACKSON	LAWRENCE	A
00824V	CARTER	IBRAHAM	D
00829	MITCHELL	KEITH	A
00831	LONERGAN	BRIAN	A
00854	PEPE	ROBERT	D
00861	FLOREZ	OMAR	A
00882	FLORIDIA	DANIEL	A
00886	PRICE	KENNETH	A
00909	QUINTANA	ANTHONY	A
00915	OROURKE	FRANK	A
00927	PRESTON	JAMES	A
00929	HEGARTY	KEVIN	A
00951	SHIELDS	WILLIAM	D
00961	THOMPSON	MATTHEW	A
00963	CRISCI	MICHAEL	A
00995	HENRY	PAUL	A
01003	LEONARD	BRIAN	A
01021	TASSO	MICHAEL	D
01031	MALLOY	CHRISTOPH	A
01035.5	GREGORY	JUSTIN	A
01037	RIZAK	MICHAEL	A
01041	MOUGHTY	SEAN	A
01047	BELL	KALISH	A
01050	KEATING	MATTHEW	A
01065	MCGOWAN	JASON	A
01068.5	BITENAS	KESTUTIS	D
01090	DEGAETA	NICHOLAS	A
01101	SILLETTI	JONATHAN	D
01103	RIZZO	DOMINICK	A
01120	JENNINGS	KEVIN	A
01123	OBRIEN	MARK	A
01125	WALTERS	MATTHEW	A
01126	CONTI	JOSEPH	A
01136	OBOYLE	GAVIN	A
01147	GRANT	SHELTON	A
01147.5	MARZIALE	ANDREW	D
01150	MAKLARI	DANIEL	D
01154	GRIFFIN	DAVID	A
01159	FAISON	WILSON	D
01165	OBRIEN	SEAN	A
01175	BELTRES	EDDIE	A
01179	ATWOOD	DEREK	A
01184	FIGUEROA	DANIEL	A
01197	DECOTEAU	RENWICK	A
01210.5V	TRESTIK II	TED	A

01217	LIGRECI	JOHN	A
01221	LYNCH	JOHN	A
01223V	MAHONEY	MARK	A
01229	ILLANES	CARLOS	A
01230	LAVADO	ANTHONY	A
01241	MCGINLEY	MICHAEL	A
01247V	PEREZ	RAUL	D
01257	FREEMAN	JESSE	A
01258	DIEZ-DEAN	ANTHONY	A
01264	HOPKINS	BRIAN	D
01275	FLORES	JOHN	D
01278	MOORE	WILLIAM	A
01290	LYNCH	MICHAEL	A
01290.5	NEWSOME	SEAN	D
01294	HOLDIP	SEAN	A
01295	RAGUSA	VINCENZO	A
01300	CARLUCCI	DANIEL	A
01301	BURBAN	BRIAN	A
01342	MCNEIL	COURTNEY	D
01362	FLAHERTY	NEIL	A
01371.5V	DROBECKE	ADAM	A
01380V	HOLDEN	JUSTIN	A
01395	ARA	CHRISTOPIA	A
01400	BRESLIN	SEAN	A
01406V	PRICE	RAYMOND	A
01415V	BOYCE	MARK	D
01429	HURLEY	JOSEPH	A
01433	MCHUGH	RYAN	D
01449	GHANEM	MOUMIN	D
01453	FRONTERA	JAMES	A
01458	CASTELLAN	LEANDRO	A
01480	ROBERTS	JOSEPH	A
01502	CUNNINGH	PATRICK	A
01539	MCPARTLA	JOSEPH	A
01559V	GUZMAN	GAYBER	A
01574	CRANE	JOSEPH	A
01590	INNONE	ANTHONY	A
01605	MCGUIRE	J STEVEN	D
01616	BEAN	MICHAEL	A
01619	CAMINITI	CHRISTOPIA	A
01624	ROA	ANGELO	A
01641	PALMER	RICHARD	A
01663	BRUNO	MATTHEW	D
01675	GILL	JOVAN	D
01697	GILI	CHARLES	D
01752	BEVILACQU	DANIEL	A
01812	LAURO	LOUIS	A
01887	SMITH	JAMELLE	A
01899	SWANSON	JOSEPH	A
02009	KROL	LUKASZ	A
02018	SCHARFGL	CHRISTOPIA	A
03457.5	HINES	STANLEY	A

04130.5	ORLOWSKI DANIEL	A
05413.5	BURTIS RYAN	A
05875.5	GIOIA PETER	A
07010.7	MCLAUGHL BRIAN	A
07245.5	BERNARD C ANGELO	A